HENRY (YUHAO) ZHOU

Apt1801, 24 Wellesley St W, Toronto, ON, Canada, M4Y2X6
(+1) 416-831-6626 ⋄ henryzhou@cs.toronto.edu ⋄ https://henryzhou7.github.io/

EDUCATION

University of Toronto, Canada — Sep. 2014 - Present
Bachelor of Applied Science — Cumulative GPA: 3.92/4.00
Specialist in Computer Engineering — Rank: Top 2%
Minor in Robotics and Mechatronics
Advisor: Prof. Sanja Fidler and Prof. Jimmy Ba

Peking University, China — Summer 2016
Summer Exchange Student — Straight 4.0/4.0
Associate Degree in Economics and Literature

PUBLICATION

· **Y. Zhou***, T. Wang*, S. Fidler, J. Ba. *Neural Graph Evolution: Automatic Robot Design* (* denotes equal contribution. *International Conference on Learning Representations'19*)
· **Y. Zhou**, M. Tapaswi, S. Fidler. *Now You Shake Me: Towards Automatic 4D Cinema* (**Spotlight** in *Computer Vision and Pattern Recognition'18*)

RESEARCH EXPERIENCE

University of Toronto, Vector Institute — January 2018 - Present
Research Assistant — *Advisor: Prof.* ***Sanja Fidler****, Prof.* ***Jimmy Ba***

· Project on robotic structure design using genetic algorithms.
· Proposed using graphs to model RL agent and designed methods to modify graphs for efficient search.
· Designed methods to visualize the evolutionary progress and the genealogy tree in the genetic algorithm.
· Project on using Graph Network for learning dynamics in model-based reinforcement learning.
· Improved graph network for efficiently learning dynamics and discriminating graph isomorphism.
· Open-sourced a customized graph neural network library implemented in PyTorch and Tensorflow.

University of Toronto — May 2018 - Present
Capstone Research — *Advisor: Prof.* ***Stark Draper***

· Project on power-efficient hand gesture classifier for artificial prostheses control.
· Designed and implemented distributed machine learning optimization method using AWS Lambda service.
· Designed gesture classifier on electromyography (EMG) data for real-time processing.
· Benchmarked the performance of deep learning and signal processing methods for gesture recognition.
· Leading the senior-year capstone design team for project management, documentation, and experiments.

University of Toronto — January 2017 - November 2017
Research Assistant — *Advisor: Prof.* ***Sanja Fidler***

· Project on analyzing physical interaction in movies for automatic annotation of 4D effects in movies.
· Led the project in semantic classification and detection of physical interactions, such as splash, in movies.
· Proposed and designed multi-modal neural networks for processing visual and acoustic features. Performed ablation studies on the usefulness of each modality, and optimized the performance of the joint network.
· Created a crowd-sourcing website and trained human annotators to get high-quality annotations.
· Researched and trained deep neural networks on various audio and video datasets such as SoundNet.

INDUSTRY EXPERIENCE

Intel Corp. May 2017 - December 2017
Software Engineering Intern *San Jose, CA*

- Led the project of a cross-version testing pipeline for user designs in Quartus synthesizing team. This project is 10x more efficient comparing to the previous version of the testing framework.
- Optimized error message prompting during compilation for better user experience in Quartus.
- Organized weekly group meeting and held a tutorial in machine learning and deep learning.

Oracle Corp. July 2015 - August 2015
R&D Department Intern *Beijing, China*

- Organized and managed cloud computing resources for R&D department in Cloud Computing team.
- Provided supporting service to Oracle Japan's team by resolving internal service tickets.
- Held tutorials on cloud-computing infrastructures and computer networks within the group.

Huawei Technologies May 2015 - June 2015
Software Engineering Intern *Beijing, China*

- Transplanted automated testing scripts for testing of Ascend Series in Automated Testing team.
- Focusing on the functionalities of Settings, Clocks, and Photos, the testing scripts covers more than 40% of the entire functionalities of Huawei's EMUI operating system.

TALKS AND PRESENTATIONS

Talk	Google Brain - Talk on *A Topology Space Odyssey*
	Vector Robotics Summer School - Talk on *Self-adaptive Robots and Evolution*
Presentation	University of Toronto CV Group meeting on Scattering Transform
	Vector Institute AWS Usage showcase meeting on Neural Graph Evolution

AWARDS

Research	Edith Grace Buchan Scholarship (Summer Research 2018)
	University Conference Travel Grant (CVPR18, NeurIPS18)
Academic	Dean's List (2015 - Present) (Awarded to high academic performing students)
Competition	Best First Year Team in UTEK Software Design competition (2015)

SKILLS

Programming	Python, MATLAB, C/C++, JavaScript, Java, SQL, Verilog
Framework	PyTorch, Tensorflow, Flask, Numpy, OpenCV, SKLearn
Markup	HTML/CSS, LaTeX, Markdown

EXTRA-CURRICULAR

Coursera	Served as the (Chinese) subtitle reviewer & performed final reviews for Calculus I (2015)
	Served as the community mentor for Machine Learning (2016)
	Served as the (Chinese) subtitle translater for the course Cryptography I (2016)
Volunteer	IEEE Student Branch at University of Toronto Webmaster (2015 - 2016)
	IEEE Student Branch at University of Toronto Computer Chapter (2016)
	University of Toronto ECE Department mentor (2016 - 2017)
	University of Toronto Orientation Week Catering Team (2015)
Sports	ECE Thunder Basketball Team (2015, 2016 Engineering League Champion)
	University of Toronto SKULE Badminton Club (2014 - 2015)